

Testimony from Glen Zebarth, DVM

Subcommittees on Forests and Forest Health and Fisheries Conservation, Wildlife and Oceans

On behalf of the North American Elk Breeders Association (NAEBA), it is an honor to testify before the Subcommittee on Forests and Forest Health and the Subcommittee on Fisheries Conservation, Wildlife and Oceans. NAEBA developed the model CWD Eradication Program, which the USDA adopted, and has been actively involved in educating and encouraging its members to fully participate in the chronic wasting disease program. NAEBA has also been providing science-based information about CWD to the public and has been actively supporting, through its affiliations with other elk industry groups, ongoing scientific research of chronic wasting disease, including research aimed at developing a live animal test for the detection of CWD and a genetic challenge study conducted by the Elk Research Council and the USDA.

As the leading industry representative, NAEBA recommends that state and federal agencies adopt an interagency, public-private partnership to eradicate CWD in both domestic and wild cervids.

No Threat to Humans or Livestock

On January 19, 2001, I was privileged to deliver testimony before the FDA TSE advisory committee, which is comprised of the leading scientific researchers in the government and private sector. Some of the individuals present at this testimony were also present at those hearings, including Dr. Mike Miller. After reports and discussion on CWD, Committee Chairman Dr. Paul Brown concluded: "To date, there's no identified instance of disease in human beings attributable to chronic wasting disease, either through contact (with sick animals) or through consumption".

While NAEBA supports additional scientific studies on the actual cause of CWD and to develop a live animal test, it is important to take a moment to summarize some of the key research on CWD to date. Several studies have been conducted to determine the transmissibility of CWD from infected cervids to other species. In one study, conducted at the NIH's Rocky Mountain Laboratories in Hamilton, Montana, researchers determined that there existed "a barrier at the molecular level that should limit the susceptibility of ... non-cervid species to CWD" (Raymond, C.J. et al. "Evidence of a molecular barrier limiting susceptibility of humans, cattle, and sheep to chronic wasting disease." The EMBO Journal. 19.17 (2000):425-4430.

Real-life conditions support the presence of a species barrier. Beth Williams, DVM, Ph.D., of the Wyoming State Veterinary Laboratory and leading expert on CWD, said that researchers have found no evidence that CWD can be transmitted from deer and elk to cattle under natural conditions and provided an interim report on two studies supporting these findings. In a 10-year study involving 12 cattle that were orally fed CWD-infected deer brain one time in 1997, all of the cattle are healthy. In a contact study also begun in 1997, 24 cattle are being kept alongside CWD-infected deer, and all 24 are healthy.

In addition, a wide-ranging survey of cattle in contact with CWD-exposed free-ranging deer supported the species barrier. In 1998, Dr. Daniel H. Gould of Colorado State University conducted a geographically targeted survey of adult-age cattle (five years or older) on 22 ranches where cattle co-mingled with free-roaming deer. None of the 262 cattle brains analyzed had any indications of chronic wasting disease, and no evidence of prion proteins was detected in any animal tissue.

In contrast, in a study where 12 cattle were injected intracranially with CWD-infected deer brain, three

cattle became sick and were euthanized (Hamir, A.N., et al. "Preliminary Findings on the Experimental Transmission of Chronic Wasting Disease Agent of Mule Deer to Cattle." *Vet. Diagn. Invest.* 13 (2001). This type of transmission, however, would never happen under natural ranching conditions or in the wild.

Proactive Measures to Eliminate CWD

While we believe that CWD poses no threat to humans or cattle, it does present a very real threat to our livestock, defined in the new farm bill as "any farm raised animal", which includes domestic deer and elk. CWD is not only a threat to our domestic elk and deer; it also endangers wild cervids. As an industry, we take the presence of CWD very seriously and we are committed to eliminating the disease from all cervids, both domestic and wild.

Additionally, NAEBA is concerned with the public perception of CWD as a threat to human health. We have undertaken educational initiatives to allay consumer concerns about the transmissibility of CWD; however, more education and research needs to be conducted to ensure that the public has all the pertinent information about CWD, its origins, symptoms, and modes of transmission.

The North American Elk Breeders Association has taken the leading role in eradicating CWD from domestic elk. The goal of our program has been and continues to be the complete eradication of CWD in farmed elk. It is not just the containment of the disease. When the disease was first identified in farmed elk in Canada in 1996 and then in the United States in December of 1997, the control and eradication of the disease became a top priority.

In fact, when CWD was first discovered in 1997 at a farmed facility in South Dakota, the elk breeders of that state unanimously voted to support emergency legislation to address CWD aggressively. Ranchers of infected herds in South Dakota, out of respect of consumers' concerns, did not sell antler from CWD present herds and instead, voluntarily eradicated their herds. In January 1998, all elk farms were placed under mandatory surveillance and every farmed elk that died aged 16 months or older regardless of cause was tested for CWD. Since 1998, elk farms in South Dakota have been CWD free indicating that a CWD eradication program can successfully work to eliminate the disease in farmed elk. North Dakota, which was also placed under a similar program in 1998, has never had a single case of CWD.

Today, all but one elk ranch in Craig, Colorado that has had a case of CWD has been depopulated.

Both the United States Department of Agriculture (USDA) and the Canadian Food Inspection Agency (CFIA) have adopted aggressive programs for the control and eradication of CWD, based on the model program that was drafted by NAEBA in 1998. Protocols include:

1. Verified inventory records on herds and animals. Regulations include tattoo records, microchip implants, and sale and transfer records.
2. Required examination of the brains of all animals that die at over 16 months of age, regardless of their cause of death.
3. Certification of herds with CWD-negative status.
4. Depopulation of herds with one case of CWD. This is a standard disease eradication program necessitated by the absence of a reliable ante-mortem CWD test.
5. Payment of indemnity (of fair market value up to \$3000 per animal) for all animals that are killed because of potential exposure to CWD.

In addition, federal law prohibits feeding domestic elk with animal remains. This ensures that animal by-products are not passed through the food chain and eliminates feeding as a potential vector for CWD transmission.

One of the most important components of the CWD control program is the payment of indemnity to ranchers who are forced to depopulate their elk herds because of potential exposure to CWD. Indemnity payments have been part of the traditional role of government agencies in agricultural endeavors.

NAEBA supports the USDA's Uniformed Method and Rules, which requires herds to participate in the CWD program before they are permitted to ship elk interstate. Intrastate movement is a state right's issue. NAEBA encourages all ranchers to participate in the CWD program and also suggests that intrastate movement of elk be restricted to those ranchers who are participating in the program.

CWD in Colorado

CWD was first diagnosed as a clinical syndrome in captive elk in a Colorado Division of Wildlife research facility in Fort Collins in 1967. Since that time, the disease has been determined to be endemic in northeastern Colorado and southeastern Wyoming. In fact, the disease prevalence is as high as 14% of the mule deer population in specific game management areas (<http://wildlife.state.co.us/hunt/HunterEducation/chronic.asp>).

Let me be very clear about definitions. Captive elk or deer are cervids that were captured from the wild and placed behind fences as in the Colorado DOW research herd. Farmed or domestic elk are elk raised on farms, some of which came from more than 10 generations of domestic herds. Farmed elk, by definition established by the recently signed Farm Bill, is considered livestock. This is an important distinction.

In late September 2001, the appearance of CWD in Colorado elk ranches was the first real test of the national CWD program. Under the guidelines of the national CWD Eradication and Control program, federal and state agencies, as well as affected elk ranchers, worked quickly to identify, depopulate, and test all exposed elk.

The program worked successfully in quickly identifying, depopulating, and testing all exposed elk. A total of 1,732 elk in Colorado were depopulated and tested, and only 44 of these animals tested positive for CWD. Of the 44 positive test results, all but two either appeared at or could be traced back to the source herd. The other two positive cases were discovered on a ranch in Longmont.

More than 200 animals were shipped to 15 states from affected Colorado elk ranches. These animals were also quickly identified, depopulated, and tested for CWD. Only one of 200 elk tested positive for the disease. The lone positive case was in a Kansas herd of 16 elk: the remaining elk in the herd were tested and determined negative.

CWD in Nebraska

Unfortunately, CWD also recently appeared in Nebraska. On an elk and deer farm in northwestern Nebraska, state officials found the disease present in both deer and elk. The deer herd, which had been a wild herd that was fenced-in in 1991, had an infection rate of 50%, while the elk herd had an infection rate of 10%. All the exposed animals were depopulated and tested for CWD in accordance with the USDA regulations.

Additionally, wild deer culled from the land surrounding the ranch tested positive for CWD. Wyoming management unit 16 is less than 30 miles from the affected ranch in Nebraska, and results from a study conducted in 2000 show the unit has a disease prevalence of 4.1% in free-ranging mule deer and 15.4% in free-ranging whitetail deer (Miller, M. W. et al, "Epizootiology of chronic wasting disease in free-ranging cervids in Colorado and Wyoming" *Journal of Wildlife Diseases.*, Oct. 2000, 36:4, 676-690.).

CWD in Wisconsin

The occurrence of CWD in Wisconsin is significant because it marks the first time that the disease has appeared east of the Mississippi River.

While CWD has been detected in wild deer in Wisconsin, there has never been a case of the disease in domestic elk or deer in the state. Contrary to reports, there has never been a single documented case where CWD was transferred from an elk or deer ranch into the wild.

Because of the appearance of CWD, the Wisconsin Commercial Deer and Elk Farmers Association (WCDEFA) has agreed to a temporary moratorium of the shipment of deer and elk. WCDEFA also supports a mandatory CWD surveillance program, with phased-in importation requirements (as outlined earlier in this testimony) that would allow the transport of deer and elk only if they come from herds that have been CWD-free for five years. WCDEFA is cooperating with state agencies to help educate the public and alleviate concerns about CWD impacting human health.

NAEBA believes that the phased-in importation requirement plan, along with the CWD Eradication Program, is working to protect domestic as well as free-ranging cervids from CWD and to eliminate the disease. A permanent ban on the movement of cervids will only exacerbate fears, adversely impact hunting economies of affected states, and further erode markets for elk and deer products.

Public hysteria, fueled by sensationalist comments in print media by critics of the elk industry, if continued to be left unchecked, can do more harm to the hunting economies of affected states than the disease itself.

Establishing an Inter-agency Approach to CWD Eradication

We are glad to see that wildlife managers from states where CWD is present in wild populations are expressing their concerns about the disease; it is imperative that we work together to eradicate the disease entirely.

NAEBA is submitting recommendations that we feel will build an inter-agency public-private approach to CWD eradication.

1. **Build regional coalitions to battle CWD.** Individual states/provinces cannot effectively fight CWD alone, due to financial concerns and high disease prevalence in isolated geographic areas. NAEBA urges state and national wildlife managers and agricultural regulators to form cooperative agreements on a regional basis to research and disseminate important CWD information, and to search out and eliminate infected animals.
2. **Establish a CWD Task Force.** Any resolution of the CWD infection must involve all affected parties, including wildlife managers and agricultural regulators, as well as representatives of the domestic cervid industry, conservation and hunting groups, and other concerned stakeholders. State, provincial, or national governments should fully fund these task forces and charge them with developing a 10-year strategic plan for eliminating CWD from all cervids.

3. **Initiate cooperation with federal and national agencies.** States and provinces should work with various federal and national agencies, including USDA, US Department of the Interior, US Forest Service, CFIA, and National Parks Services to initiate more proactive CWD detection and eradication programs.
4. **Move more decisively when CWD appears in wild cervid populations.** States and provinces should aggressively control CWD in wild cervid populations by culling animals from known endemic areas, including Colorado, Wyoming, Nebraska, and Wisconsin. Additionally, states and provinces should make every possible effort to completely eliminate potentially exposed wild cervid populations in areas where contact is most likely between potentially infected cervids and humans, livestock, and agricultural production.
5. **Pursue a live CWD test.** States, provinces, and the domestic cervid industry should empanel the leading experts on CWD and fund extensive research and development to create a live CWD disease test that will focus on all disease pathogens or by-products, including prions.
6. **Double-fence domestic herds in endemic areas.** Using state, provincial and national funds, as well as donated industry and conservation forces, states and provinces should use double fencing on domestic cervid facilities to protect herds from infection in known endemic areas.
7. **Restrict movement of hunted cervid carcasses from endemic areas to those tested negative for CWD.** The movement of carcasses that have not been tested for CWD from endemic areas poses a threat to free-ranging and domestic cervids in other areas.

Recently, the USDA submitted a request \$7.2 million as part of the President's budget to help combat CWD. NAEBA fully supports this request and is asking that additional funds be appropriated for testing of free-ranging cervids for CWD.

The North American Elk Breeders Foundation (referred to hereafter as "the Foundation"), a 501(c) 3 tax-exempt, non-profit educational organization, is requesting federal funding in the amount of \$600,000 to engage in a proactive, nationwide science-based educational campaign. The Foundation's educational campaign is designed to encourage elk ranchers to participate in the CWD program, to provide science-based information to the public, and to ensure that their concerns regarding CWD are addressed.

The Foundation is best positioned to educate elk ranchers and to continue its educational efforts to the public. Yet, due to the increasing attention on and prevalence of CWD, our limited resources are not sufficient to address these legitimate public concerns. We are asking Congress to assist us in this important effort to continually educate and inform the public about CWD.

While all research has focused on prions as the causative agent of CWD, prions might be the result and not the cause. Knowing the exact cause of the disease will only accelerate the development of a live-animal test as well as the formulation of a vaccine or other treatment. CWD may be caused by a virus, bacteria or bacteriophage (a viral infected bacteria). It is important to know the cause of CWD in order to effectively pursue a cure.

In addition, it is critical to pursue a live animal test, further test decontamination methods, and to continue research on genetic resistance. NAEBA, the North American Elk Breeders Foundation and the Elk Research Council vigorously support the competitive proposal process for research funds and looks forward to participating in and supporting further research.

NAEBA Comments on USDA Interim Rule

The USDA specifically requested feedback on herd reintroduction after depopulation and decontamination

methods. NAEBA submitted a response summarized below.

There are a number of factors to consider when determining when elk can be reintroduced and the risk of CWD re-infection minimized. These factors include:

1. The level of infectivity on the ranch.
2. The stage each of elk detected with CWD.
3. Whether CWD was transmitted to other elk on the premises or whether the CWD positive elk is a trace-forward animal (i.e. an elk shipped from an exposed herd).
4. If the CWD positive elk is a trace forward elk, how long was the elk on the trace forward herd.
5. Research on ranches where positive animals were depopulated and whose owners have reintroduced elk.
6. Any environmental factors unique to the ranch.

We believe that the herd plan, developed by the state veterinarian, a member of APHIS along with the rancher, should properly address the specific issue of elk reintroduction.

In addition, NAEBA sees decontamination as a major area for further research. The Elk Research Council is involved in a decontamination study that has been ongoing for the past 18 months. NAEBA recommends decontamination procedures for ranches that have been exposed to CWD-positive animals. This will help remove the infectious agent from the premises and will allow breeders to utilize their property again. Decontamination procedures should include burning or deep burial of contaminated materials, removal of soil (up to four inches deep) and replacement with an impervious material such as stone dust, removal of all organic material, and disinfectant of equipment with a substance such as sodium hypochlorite or sodium hydroxide.

Value of Elk Ranching

Game farming has a rich history, dating back to Persian, Greek, and Roman societies. Elk ranching in particular is a value-added agricultural industry with annual sales of more than \$50 million. It is a viable alternative for family ranching, and many ranchers have made significant financial investments in their operations. Elk ranching produces healthy, safe, beneficial products such as lean red meat and velvet antler dietary supplements for joint mobility and endurance.

Tapping into the recreational aspect of elk ranching by allowing hunting on appropriate private facilities has not only been successful, but as predicted has enhanced rural economies and added another profitable agricultural opportunity to the state. Elk ranching is one of the last bastions of family farming in this country, and our industry is willing to do whatever is necessary to protect our animals from CWD.

Those of us involved in elk ranching believe that by working together, trade organizations and state and federal agencies can eradicate CWD from all cervids, both domestic and wild. By eliminating the disease, consumers can continue to enjoy the health benefits of elk products such as lean red meat and velvet antler, and ranchers throughout North America can continue to thrive in partnership with nature for many years to come.